

IAP11 Rec'd PCT/PTO 26 JUN 2006

PATENT  
Attorney Docket No. 02886.0097  
CUSTOMER NUMBER 22,852

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re U.S. National Phase of	)	
PCT/JP2004/019828	)	
Inventors: Akihito SANO et al.	)	Group Art Unit:
Application No.: Not Yet Assigned	)	Examiner:
Filed: June 26, 2006	)	
For: CONVEXO CONCAVE	)	
AMPLIFYING DEVICE AND	)	
CONVEXO CONCAVE	)	
DETECTING METHOD BY USE	)	
THEREOF, DEFORMATION	)	
SENSING DEVICE AND	)	
CONVEXO CONCAVE	)	
DETECTING METHOD BY USE	)	
THEREOF, AND CONVEXO	)	
CONCAVE POSITION	)	
EXHIBITING DEVICE AND	)	
CONVEXO CONCAVE POSITION	)	
EXHIBITING METHOD	)	

**MAIL STOP PCT**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

Sir:

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)**

Pursuant to 37 C.F.R. §§1.56 and 1.97(b), applicants bring to the Examiner's attention the documents listed on attached Form PTO/SB/08 and cited in the enclosed international search report. Copies of the listed foreign patent documents are attached. Applicants respectfully request that the Examiner consider the documents listed on

attached Form PTO/SB/08 and indicate that they were considered by making an appropriate notation on this form.

This Information Disclosure Statement is being filed with the above-referenced application.

The following are listed on the accompanying PTO/SB/08 and are in a non-English language:

1. Japanese Unexamined Utility Model Publication No. 6-102980 discloses a tactual sense presentation device for presenting tactual sense information with respect to a virtual object in virtual working space. The tactual sense presentation device comprises a memory means for memorizing information of the virtual object, which is previously set, such as the shape and elastic modulus of the virtual object, a shape-memory alloy having a contacting surface to be contacted with regions of the human body and an initial shape which corresponds to the previously-set information of the virtual object, a detecting means for detecting distortion quantity which is generated in the shape-memory alloy, a calculation means for calculating the controlled variable of the temperature in order that the shape-memory alloy has the shape and elastic modulus which correspond to the previously-set information of the virtual object based on the distortion quantity detected by the detecting means and the previously-set information of the virtual object memorized by the memory means, and a control means for controlling the temperature of the shape-memory alloy based on the calculated controlled variable.

2. Japanese Unexamined Utility Model Publication No. 9-26367 discloses a strain detecting sensor having a base 22 and strain detecting elements 23. The base 22 is made of a semiconductor material or a pyrex glass, and comprises a first beam 221, a second beam 222 which is arranged in parallel with the first beam 221, and a third beam 223 which is combined with the first beam 221 and the second beam 222 to be formed as U-shape. The opposite ends 22a and 22b of the base 22 are set at a place where a shearing force of a measuring object is generated by impressing a measuring load F so that a tensile force is applied to the first beam 221 and a compressive force is applied to the second beam 222, or a compressive force is applied to the first beam 221, and a tensile force is applied to the second beam 222. The strain detecting elements 23 are provided on at least one of neutral axes  $A_N$  of the first beam 221, and the second beam 222 of the base 22, and detect tensile strain or compressive strain of these beams.

3. Japanese Unexamined Utility Model Publication No. 8-62061 discloses a detecting device for strain. In this device, a strain generating tube 10 which is mounted on a measuring object is provided with an open window part 11 in the direction which intersects perpendicularly the acting direction of the force acting on a free end of the strain generating tube 10. A beam 12 being an elongation side with respect to the acting force and a beam 13 being a contraction side with respect to the acting force are formed, and strain gages 20<sub>1</sub>-20<sub>4</sub>, are stuck on the surface of these beams 12 and 13 in the vicinity of respective root part on both sides thereof in such a manner that the strain gages 20<sub>1</sub>-20<sub>4</sub> are symmetrical with a central focus on a central axis 10p of the strain generating tube 10. On the other hand, respective gage resistors 20<sub>1</sub>R, 20<sub>3</sub>R, 20<sub>2</sub>R,

and 20<sub>4</sub>R of pairs of strain gages 20<sub>1</sub> and 20<sub>3</sub>, 20<sub>2</sub> and 20<sub>4</sub> which are arranged diagonally on the above beams 12 and 13 is set on opposite sides of a bridge circuit which is formed by an input terminal 30, a grand terminal 31 and a pair of output terminals 32 and 33, so as to cancel bending strain which is generated by a bending moment.

4. Japanese Application No. 5-296709

5. Japanese Unexamined Patent Publication No. 5-5397 - The relevance of this document is discussed at pages 4 and 5 of the specification of the present application.

6. Japanese Application No. 7-128166

7. Japanese Unexamined Patent Publication No. 2001-153811 - The relevance of this document is discussed at page 5 of the specification of the present application.

An English-language abstract of the documents is enclosed.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute "prior art." If the Examiner applies any of the documents as prior art against any claim in the application and applicants determine that the cited documents do not constitute "prior art" under United States law, applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of such documents. Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed

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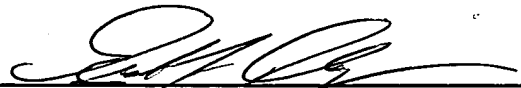
documents, should one or more of the documents be applied against the claims of the present application.

If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: June 26, 2006

By:   
Ernest F. Chapman  
Reg. No. 25,961

Enclosures  
EFC/FPD/gah

IDS Form PTO/SB/08: Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	
				Filing Date	
				First Named Inventor	
				Art Unit	
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	
				02886.0097	

U.S. PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS					
Examiner Initials	Cite No. <sup>1</sup>	Document Number	Issue or Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US-4,657,021	04-14-1987	Perry et al.	
		US-6,445,284 B1	09-03-2002	Cruz-Hernandez et al.	
		US-6,179,790 B1	01-30-2001	Cundari et al.	
		US-5,946,727	09-07-1999	Wright et al.	
		US-5,989,199	11-23-1999	Cundari et al.	
		US-4,793,354	12-27-1988	Wright et al.	

**Note: Copies of the U.S. Patent Documents are not Required in IDS filed after October 21, 2004**

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		JP-6-102980	04-15-1994	OLYMPUS OPTICAL CO LTD		Abstract
		JP-9-26367	01-28-1997	YOKOGAWA ELECTRIC CORP		Abstract
		JP-8-62061	03-08-1996	NISSAN MOTOR CO LTD		Abstract
		JP-5-296709	11-09-1993	FANUC LTD		Abstract
		JP-5-5397	01-14-1993	MITSUBISHI HEAVY IND LTD		Abstract
		JP-7-128166	05-19-1995	RES DEV CORP OF JAPAN		Abstract
		JP-2001-153811	06-08-2001	MITSUBISHI RAYON CO LTD		Abstract
		WO-00/66970	11-09-2000	3 STRINGS PTY LTD		
		WO-02/37466 A1	05-10-2002	ESSENTIAL REALITY, LLC		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation <sup>6</sup>

Examiner Signature	Date Considered
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**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.